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| 10/776,534 | 02/12/2004 | Kenya Takamidoh | 0879-0429P | 4118 |
| 2292 7590 09/24/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747 | | | EXAMINER PATEL, JAYESH A | |
| | | | ART UNIT 2624 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

| | | | |
|------------------------------|-------------------------------|----------------------------------|--|
| Office Action Summary | Application No. 10/776,534 | Applicant(s) TAKAMIDOH, KENYA | |
| | Examiner Jayesh A. Patel | Art Unit 2624 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. Applicant's response to the last office action, filed July 27 2007 has been entered and made of record.
2. Applicant's amendment has required new grounds of rejection. New grounds of rejection for (Claims 7-26) are therefore presented in the office action.
3. The examiner does not agree to the applicant's arguments on pages 8-14. For example on Page 10 the applicant argues that Blank does not disclose the step of "judging whether or not a detected boundary is a true contour of a human for each part of the boundary". The explanation is as follows. Blank discloses that the object is a human for example at **(Col 2 Lines 56-57)**. Blank also discloses in Claim 15 that the "until the entire edge of the object has been identified." Clearly shows that the transputer does the **(judging)** based on the difference of the hues of the object **(human)** and the background to determine or identify the boundary **(true contour)** of the object. Blank further discloses that the transputer can be programmed to measure the Hue's at predetermined portion of the object such as hand, face or clothing of the person that was imaged at **(Col 13 Lines 53-62)**. Blank also discloses the same for the background portion at **(Col 13 Lines 53-62)**. Blank further disclose that the transputer selection of an object (person) edge pixel can be software determined at **(Col 13 Lines 23-24)**. Blank also discloses at **(Col 3 Lines 1-6)** that the background has a single continuous hue and based upon the difference in hue between the object and the background,

the processor determines (**emphasis added**) the location of the edge (**as claimed in Claim 1 and 4**). Blank therefore disclose that the transputer judges the (**true contour**) of the person. Blank at (**Col 9 Lines 3-14**) further disclose that the transputer 44 effectively removes the portion of the video image that is outside the edge and leaves intact the entire portion of the object component of the image (**judged true contour of the person**) based on hue. Figs 5A-5E also show a true contour of the object being judged by the transputer. Finally Blank at (Col 8 Lines 44-49)

The applicant further argues on Page 11 that Blank does not disclose applying any correction for concealing a boundary part, which is judged not to be a true contour of the person (**contiguous to the edge**) in the created composite image, the examiner disagrees. Blank at (**Col 4 Lines 17-27**) discloses the processor performing the blending function (**correction**) by averaging the hue of the edge and the hue of the background that is contiguous to the edge (**judged not to be a true contour**). Blank therefore disclose the correction in the composite image. Figs 5d and 7c also shows the concept.

Examiner cites particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully consider the references in entirety as potentially teaching all or

part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding Independent Claims 1, 4 and 7 the phrase "applying correction processing----- in the created composite image" renders the claim indefinite because it is unclear as the correction is applied ----- to what? As the claim recites now would mean applying correction for (intended use)-----"to something"-----in the composite image and it is not clear as "to what something?" the correction is applied in the composite image.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Blank (US. 5345313) hereafter blank.

4. Regarding claim 1, Blank discloses a portrait image processing method in (**Fig 6**) comprising the steps of: extracting a portrait image from an original image including a person and a background (**Col 2 Lines 60-68 and Col 9 Lines 3-8**); compositing the extracted portrait image and a background image prepared in advance to create a composite image at (**Col 3 Lines 56-67**); detecting a boundary of the person and the background from the original image at (**Col 2 Lines 60-67, Col 9 Lines 3-14 and Col 8 Lines 44-49**); judging whether or not the detected boundary is a true contour of the person for each part of the boundary (**Col 8 Lines 44-49, Col 9 Lines 3-14, Figs 5a-5e, 7c-7d**); and applying correction processing for concealing a boundary part, which is judged not to be a true contour of the person to the boundary of the person (**contiguous to the edge**) in the created composite image at (**Col 4 Lines 17-27, Col 9 Lines 36-45 and Figs 5d-5e**). Blank at (**Col 8 Lines 44-49**) discloses that the transputer 44 determines, at “**decision block 60**”, that the difference between the standard pixel and the pixel under test exceeds the predetermined difference, indicating that the test pixel is “**not a background pixel and is therefore representative of an edge 66 of the model 22 which is a person**”. This clearly is a judging performed by a transputer and a decision is made whether the pixel is an edge of a person or the background. Blank further disclose applying correction processing for concealing a boundary part, which is judged not to be a true contour of the person to the boundary of the person (**contiguous to the**

edge) in the created composite image at **(Col 4 Lines 17-27)**. Blank further discloses the processor performing the blending function **(correction)** by averaging the hue of the edge and the hue of the background that is contiguous to the edge **(judged not to be a true contour)**. Blank therefore disclose the correction in the composite image. Figs 5d and 7c also shows the concept. Blank also discloses at **(Col 9 Lines 36-45)** the edge 66 being smoothed by averaging three pixels (contiguous to the edge).

5. Regarding Claim 2, Blank discloses the portrait image processing method according to claim 1, wherein said correction processing is image processing for overwriting **(making transparent background)** another image on the boundary part which is judged not to be the true contour of the person at **(Fig 5d-5e, Col 3 Lines 35-42 and Col 8 Lines 44-68)**. The process of further blending at **(Col 4 Lines 21-27)** the object in to the preselected image, the processor averages the hue of edge of the object and the hue of the portion of the pre selected background that is **(contiguous to the edge)**. The averaging of the pixels will be overwriting the boundary part, which is judged not to be a true contour of the person.

6. Regarding Claim. 3, Blank discloses the portrait image processing method according to claim 1, wherein said correction processing is image processing for shifting the portrait image such that the boundary part, which is judged not to be

the true contour of the person, is outside a frame of the composite image at **(Fig 7a-7d and Col 12 Lines 53-68 through Col 13 Lines 1-34)**. Blank also discloses in Fig 7c the portion 66, which is judged not to be the true edge **(background portion near the edge)** is shifted **(changed by blending or removing)** in Fig 7d. Blank also discloses the fact at **(Col 4 Lines 8-33)**.

7. Claim 4 is a corresponding apparatus claim of a method of Claim 1. See the explanation of Claim 1. Blank further discloses the apparatus in **(Figs 1,2 and 3)**.

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8. Claim 5 is a corresponding apparatus claim of a method of Claim 2. See the explanation of Claim 2. Blank further discloses the apparatus in **(Figs 1,2 and 3)**.

9. Claim 6 is a corresponding apparatus claim of a method of Claim 3. See the explanation of Claim 3. Blank further discloses the apparatus in **(Figs 1,2 and 3)**.

10. Regarding Claim 10, Blank discloses the portrait image processing method according to claim 1, wherein said background is arbitrary in **(Col 6 Lines 18-20)**.

11. Regarding claim 16, Blank discloses the portrait image processing apparatus according to claim 4, wherein said background is arbitrary **(Col 6 Lines 18-20)**.

Claims 7- 9 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Blank (US. 5577179) hereafter 5577179.

12. Regarding Claim 7, 5577179 discloses a portrait image processing method, said method comprising: extracting a portrait image from an original image including a person and a background (**Col 3 Lines 54-67**); compositing the extracted portrait image with a background image prepared in advance (**Col 4 Lines 59-64**) to create a composite image; detecting a boundary of the person in the original image (**Col 3 Lines 63-67**); identifying, in the detected boundary, a boundary part representing a contour of the person with low certainty (**Col 16 Lines 48-50 where the computer selects three pixels just outside the edge of the object and uses them as edge pixels is the boundary part with low certainty**); and applying correction processing (**blend operation**) for concealing the boundary part in the created composite image at (**Col 16 Lines 50-53, Col 17 Lines 4 and 23**).

13. Regarding Claim 8, 5577179 discloses the portrait image processing method according to claim 7, wherein said correction processing is image processing for overwriting the boundary part with another image at (**Col 16 Lines 58-63**). The computer sets the transparency or opacity (**overwriting with another image**) of each of the three object pixels according to the blend factor.

14. Regarding Claim 9, 5577179 discloses the portrait image processing method according to claim 7, wherein said correction processing is image processing for shifting the portrait image such that the boundary part is outside a frame of the composite image at **(Col 16 Lines 58-63)**. The computer sets the transparency or opacity **(overwriting with another image)** of each of the three object pixels according to the blend factor.

15. Regarding Claim 25, 5577179 disclose the portrait image processing method according to claim 7, wherein said extracting step is performed for extracting facial parts **(Col 14 Lines 60-63 and Col 15 Lines 39-43)**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11-12,14,17-19,21,23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blank in view of 5577179.

16. Regarding Claim 11, Blank discloses the portrait image processing method according to claim 1. Blank discloses the extraction of an object which is a human being, however is silent and does not disclose wherein said extracting step extracts facial parts from the original image, the facial parts including at least one of eyes, nose and mouth. 5577179 at **(Col 14 lines 60-63)** disclose where the file header contains the information regarding the location of the eyes, which is used for extraction. 5577179 further discloses that such a digital image editing system can automatically size, position, layer the digital image of a replacement object or multiple objects into a predetermined background at a desired depth, match, produce a pleasing appearance, easy to implement and cost effective to use at **(Col 3 Lines 23 and 41-48)**. Both Blank and 5577179 are from the same field of endeavor and are analogous art, therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to have used the teachings of 5577179 in the image editing system of Blank for the above reasons.

17. Regarding Claim 12, Blank and 5577179 discloses the portrait image processing method according to claim 1. 5577179 further disclose wherein said step of detecting a boundary uses an average positional relationship between a position of a facial part and a boundary of a person and a background, to detect the boundary at **(Figs 4e, 4f, 4g and Col 14 Lines 38-57 and Col 15 Lines 5-23)**. 5577179 use the positional relation between the **(facial parts eyes, neck)**,

the edge of the person (**object**) and the background person (**background in the present context**) to detect the boundary as shown in the figures.

18. Regarding Claim 14, Blank and 5577179 discloses the portrait image processing method according to claim 1. 5577179 further disclose wherein said judging step determines whether a boundary part of the detected boundary is a boundary part with high certainty (**edge of the object**) as a contour of the person, and/or whether or a boundary part of the detected boundary is a boundary part with low certainty as a contour of the person (**Col 14 Lines 60-63, Col 16 Lines 48-50 where the computer selects three pixels just outside the edge of the object and uses them as edge pixels is the boundary part which are judged not to be the true contour of a person and are boundary part with low certainty**).

19. Regarding Claim 17, Blank and 5577179 discloses the portrait image processing apparatus according to claim 4. 5577179 further disclose wherein said portrait image extracting device extracts facial parts from the original image, the facial parts including at least one of eyes, nose and mouth (**Col 14 Lines 60-63**).

20. Regarding Claim 18, Blank and 5577179 discloses the portrait image processing apparatus according to claim 4. 5577179 further disclose wherein

said boundary detecting device uses an average positional relationship between a position of a facial part and a boundary of a person and a background, to detect the boundary **(Figs 4e, 4f, 4g and Col 14 Lines 38-57 and Col 15 Lines 5-23)**. 5577179 use the positional relation between the **(facial parts eyes, neck)**, the edge of the person **(object)** and the background person **(background in the present context)** to detect the boundary as shown in the figures.

21. Regarding Claim 19, Blank and 5577179 discloses the portrait image processing apparatus according to claim 4. 5577179 further disclose wherein said judging device determines whether a boundary part of the detected boundary is a boundary part with high certainty **(edge of the object)** as a contour of the person, and/or whether or a boundary part of the detected boundary is a boundary part with low certainty as a contour of the person **(Col 14 Lines 60-63, Col 16 Lines 48-50 where the computer selects three pixels just outside the edge of the object and uses them as edge pixels is the boundary part which are judged not to be the true contour of a person and are boundary part with low certainty)**.

22. Regarding Claim 21, Blank and 5577179 discloses the portrait image processing method according to claim 1. 5577179 further disclose wherein said extracting step is performed for extracting facial parts at **(Col 14 Lines 60-63 and Col 15 Lines 39-43)**.

23. Regarding Claim 23, Blank and 5577179 discloses the portrait image processing apparatus according to claim 4. 5577179 further disclose wherein said portrait image extracting device extracts facial parts at **(Col 14 Lines 60-63 and Col 15 Lines 39-43)**.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blank in view of 5577179 in further view of Lee et al. (US 20030058939) hereafter Lee.

24. Regarding Claim 13, Blank discloses the portrait image processing method according to claim 1. Blank discloses extraction of a person from the background, however is silent and does not disclose wherein said extracting step extracts a skin color in the original image, sequentially applies area extension to connected areas, from a point of a skin color area, extracts a face area based on a shape of a face, and extracts a hair area above the face area, and/or a neck and chest area below the face area, to extract the portrait image.

5577179 discloses at **(Col 15 Lines 32-46)** wherein said extracting step extracts a skin color in the original image, extracts a face area based on a shape of a face, and extracts a hair area above the face area, and/or a neck and chest area below the face area, to extract the portrait image at **(Col 9 Lines 13-15)**.

5577179 disclose extracting face, however is silent and does not disclose sequentially applies area extension to connected areas, from a point of a skin

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color area. Lee in (Fig 7 and 8) discloses the face extraction and gridding of skin color. Lee at (Page 1 Para 15-17) discloses a precise technique of facial extraction. Blank, 5577179 and Lee are from analogous art and are from the same field of endeavor, therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to have used the teachings of 5577179 and Lee in the system and process of Blank for the above reasons.

Allowable Subject Matter

Claim 15,20,22, 24 and 26 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jayesh A. Patel whose telephone number is 571-270-1227. The examiner can normally be reached on M-F 7.00am to 4.30 pm (5-4-9). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jayesh Patel

09/14/07 JP


SAMI AHMED
PRIMARY EXAMINER